

**REMARKS**

Claims 1 and 39 are amended. The claim amendments are fully supported by Applicants' original specification and claims. No new matter has been introduced.

Applicants respectfully request reconsideration in view of the following remarks. Issues raised by the Examiner will be addressed below in the order they appear in the prior Office Action.

Applicants note that the Amendments filed on January 21, 2005 have been entered in full.

Applicants note with appreciation that the previous rejection under 35 U.S.C. § 112, second paragraph, has been withdrawn in view of Applicants' Amendments and Response filed on January 21, 2005.

**Withdrawal of claim 39**

Claim 39 is withdrawn by the Examiner for allegedly reciting different steps and constituting an invention patentably distinct from the originally elected invention.

Applicants traverse the withdrawal of claim 39. Claim 39 merely recites an additional step relative to the original claim 13, and this is now made explicit by amending claim 39 to depend from claim 13. Thus, claim 39 clearly falls within the scope of the originally elected claims and is rightfully a part of the present examination proceedings.

Applicants request rejoinder of claim 39 with the other pending claims.

**Claim rejections under 35 U.S.C. § 102(b)**

Claims 13, 15-16, and 32-38 are rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by Ruoslahti et al. (U.S. Patent No. 5,654,270, 1997). Applicants reiterate the arguments already made of record and traverse this rejection for the further reasons set forth below.

Ruoslahti et al. fail to satisfy the criteria necessary to anticipate the claimed invention. Specifically, Ruoslahti et al. fail to teach or suggest each and every limitation of the present claims. (See MPEP 2131). In accordance with MPEP 2131 and with the Courts, "a claim is

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anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co, of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The present claims are directed to methods for activating a membrane of a cell, comprising contacting the cell with an effective amount of a biglycan therapeutic, wherein the biglycan therapeutic activates muscle, skeletal, receptor tyrosine kinase (MuSK) on the cell.

By contrast, the disclosure in Ruoslahti et al. neither teaches nor suggests activation of postsynaptic membrane by a biglycan therapeutic. Although the Examiner asserts that the use of a biglycan therapeutic in the promotion of dermal scar healing would necessarily result in the activation of a postsynaptic membrane, this is not necessarily the case, and the Examiner has provided no references to support the assertion that dermal scar healing is *necessarily* accompanied by an increase in the activation of a postsynaptic membrane.

In fact, a comparison of the Ruoslahti et al. reference to the present disclosure demonstrates that one of ordinary skill in the art who attempted to follow the teachings of Ruoslahti et al. would be unlikely to develop a method that meets the elements of the present claims. Ruoslahti et al. teaches that decorin and biglycan bind to TGF-beta proteins and inhibit the cell regulatory functions of TGF-beta proteins. See, e.g., col. 8, lines 20-24. Throughout the document, Ruoslahti et al. show that increasing the concentration of decorin or biglycan used in an experiment produces a greater inhibition of TGF-beta function. See, e.g., Example III (Figure 4) and Example V (Figure 7) of Ruoslahti et al. Thus, the skilled artisan following the teachings of Ruoslahti et al. would seek to use a high dosage of biglycan to treat TGF-beta related disorders.

By contrast, the present application teaches that the stimulatory effect of biglycan on MuSK is biphasic. At high levels, biglycan can inhibit MuSK activity. See, e.g., Example 10, page 83. Thus, in following the teachings of Ruoslahti et al., one of skill in the art is unlikely to develop a method for administering a biglycan therapeutic in an amount effective to activate MuSK.

Inherency cannot be based on probabilities. As stated by the Court of Appeals for the Federal Circuit: "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Furthermore, "In relying upon a theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

Because Ruoslahti et al. teach that higher levels of biglycan will provide a more desirable biological effect on TGF-beta signaling, while the present application teaches that excessive biglycan will inhibit the activation of MuSK, it cannot be said that the present claims necessarily flow from the teachings of Ruoslahti et al. Accordingly, the rejection based on the doctrine of inherency should be withdrawn.

Furthermore, Ruoslahti et al. fails to show any appreciation that the presently disclosed results could possibly result from the use of a biglycan therapeutic. If a claimed method comprises steps identical to those of a method practiced in the prior art, and the same result would have been achieved in the prior art method, the accidental or unwitting achievement of that result cannot constitute anticipation. *In re Marshall*, 578 F.2d 301, 198 USPQ 344 (CCPA 1978). In *Marshall*, the PTO Board used the *Physician's Desk Reference* (PDR) as a basis for a rejection of the applicant's weight control process. The applicant's process involved anesthetizing certain intestinal nerve ends receptors with oxethazaine. The anesthesia inhibited the release of certain appetite stimulating hormones thereby inhibiting appetite. The PDR had disclosed that oxethazaine inhibits the release of gastrointestinal hormones, and such inhibition would be useful for treating certain gastrointestinal ailments. In reversing the Board's rejection, the court held that the PDR did not teach the use of the compound as a weight control drug. Addressing the issue of inherency, the court further stated that "[I]f anyone ever lost weight by following the PDR teachings it was an unrecognized accident. An accidental or unwitting duplication of an invention cannot constitute an anticipation." (*id.* 304)

Ruoslahti et al. teach the administration of decorin or a decorin homologue (e.g., biglycan) for the treatment of dermal scar healing. If the dermal scar healing promoted by the methods taught in Ruoslahti et al. would be accompanied by activation of a postsynaptic

membrane, it could only be as an unpredictable, unrecognized, and unwitting result of these methods. Since the Supreme Court's decision in *Tilghman v. Proctor*, such an accidental attainment of a result, absent any recognition of that result, was held insufficient for anticipating an invention. *Tilghman v. Proctor*, 102 U.S. 707 (1880). Accordingly and consistent with holdings ranging from the Supreme Court's decision in *Tilghman* to the Board's decision in *Marshall*, Ruoslahti et al. cannot anticipate the presently claimed invention.

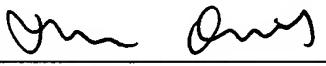
Applicants contend that Ruoslahti et al. fail to satisfy the criteria for expressly or inherently anticipating the claimed invention as recited in the independent claim 13. For the same reasons, dependent claims 15-16 and 32-39 are also free of the art. Reconsideration and withdrawal of this rejection are respectfully requested.

### CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the pending rejections. Applicants believe that the claims are now in condition for allowance and early notification to this effect is earnestly solicited. Any questions arising from this submission may be directed to the undersigned at (617) 951-7000. If any other fee is due, please charge our Deposit Account No. **18-1945**, under Order No. **BURF-P02-006** from which the undersigned is authorized to draw.

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Respectfully submitted,

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